

J.P.
S/OS

WHAT IS CLAIMED IS:

- 1 1. A multilayered torsional hinged resonant pivoting device comprising:
 - 2 a hinge layer defining a support structure and an attaching member, said support structure
 - 3 for pivotally supporting said ~~mirror~~ attaching member along a first axis of rotation by a pair of
 - 4 torsional hinges, said attaching member having a front side and a back side, and said attaching
 - 5 member defining spines extending in opposite directions and away from said first axis;
 - 6 a front layer having a front portion, a back portion and a selected thickness, said back
 - 7 portion of said front layer mounted to said front side of said attaching member and said front
 - 8 layer having a known mass moment about said first axis; and
 - 9 a back layer mounted on said back side of said attaching member and having a mass
 - 10 moment substantially equal to and opposite said known mass moment of said front layer, such
 - 11 that the center of mass of the combined front and back layers is substantially coplanar with the
 - 12 first axis of rotation and the moment of inertia of said multilayered torsional hinged device is
 - 13 substantially centered on said first axis of rotation.
- 1 2. The multilayered device of claim 1 wherein said front portion of said front layer has a
- 2 first size and shape and said back portion of said front layer further defines spines corresponding
- 3 to said spines defined by said attaching member.
- 1 3. The multilayered device of claim 2 wherein said back layer further defines spines
- 2 corresponding to said spines defined by said attaching member.
- 1 4. The multilayered device of claim 1 wherein said back layer further defines spines
- 2 corresponding to said spines defined by said attaching member.